

INTERACTIVE MAP BENEFITS

Interactive web mapping platforms and collaborative content management systems are used together to communicate information through the visual display of data. These platforms allow users to make informed decisions by providing a visual display of spatial and tabular data to easily gather and analyze information on an interactive web map. This does not replace existing infrastructure and work processes – it is a complement to existing services and provides a “window” into the existing data structure.

Users can quickly turn data into valuable information by creating intelligent interactive web maps and sharing them privately or publicly with stakeholders and decision makers. Platforms like ArcGIS Online (www.arcgis.com) make spatial data available through an interactive web map, a web application (app) and a mobile app without the need for programming. The result is a tool that is accessible to multiple users, at any time, on any operating system without a tie to legacy application development environments which leads to user and data independence.

OVERVIEW

Web mapping platforms provide stakeholders an intuitive workspace to collaborate planning and departmental efforts with other federal, state and local agencies as well as the public. This will facilitate improved working relationships, effective communication, and reduce duplication of work.

ADVANTAGES OF INTERACTIVE MAPPING PLATFORMS

- **Collaboration and unity** by simplifying access to maps and data for better communication and working relationships
- **Data Availability** allowing users to discover, use, create and manage spatial data layers
- **Transparency** of data and actions, while helping comply with federal regulations
- **Data Quality** by establishing standards that ensure data is reliable and consistent
- **Increasing efficiency and productivity** for management and delivery of projects
- **Develops uniformity**, along with other state agencies, in providing data to the public and private organizations
- **Minimizes investment** and cost for an interactive web mapping platform and collaborative content management system
- **Helps meet the growing demand** for web maps, both simple and complex
- **Facilitates creation of dynamic web maps** by providing the ability to distribute internet links that can be dynamically updated instead of distributing out-of-date and large file-size PDFs

INTERACTIVE MAP USE EXAMPLES

- **Integrate various data themes to identify new information** - With web mapping platforms (like ArcGIS Online) you can use, save, manage and share mash-ups of web maps to highlight data trends (the term ***mash-up*** refers to combining data from two or more sources; i.e., adding multiple data layers from different federal, state and local agencies to create one web map; the term implies easy, fast integration)
- **Enable both on-demand and secure options for publishing web maps** – quickly generate information displays for only those that should be accessing the information
- **Dynamic, live web maps facilitate meeting discussion** – the ability to zoom in and out and instantly drill down into the data provides much more information during a meeting than a static paper map
 - Having the ability to interact with the map during meetings allows continued discussion and product development based on the discussion; data is immediately available
 - This improves communication by putting stakeholders on the same page – everyone in the meeting can see the data and follow along
 - There is no bottleneck in discussions because information is immediately available and questions can be answered on the spot – no ending meetings and rescheduling until that data can be gathered and analyzed, etc.

EXAMPLE SUCCESS STORIES

- Improve Montana Department of Transportation (MDT) Environmental Resources Section and Montana Fish Wildlife and Parks (FWP) interactions by implementing an interactive mapping option to facilitate discussions.
 - **OBJECTIVE:** Using an interactive web map to streamline processes that locate current MDT projects that have a possibility of impacts to FWP.
 - **OVERVIEW:** MDT biologists meet (at least bi-annually) with FWP to go over upcoming MDT projects that are listed in the Statewide Transportation Improvement Program (STIP). This past year, MDT made ARCGIS ONLINE maps for each MDT district; the maps enabled users to zoom in to each project on the screen and discuss FWP's concern with individual upcoming projects. Being able to interact with the data in the web map saved a huge amount of time, since in the past we would make hardcopy maps and take these maps with us and distribute them at the meeting. Beyond the STIP, MDT must engage other state agencies on projects during the project design process, and again MDT has made ARCGIS ONLINE maps with the necessary data included and sent the weblink to the resource agencies for their review and comments.
 - **RESULT:** Saved MDT and FWP 2-3 off site meetings (2 days) with approximately 5 employees involved per meeting.
 - **CONCLUSION:** Able to achieve greater communication in one single meeting rather than attending lots of follow-up meetings. By using the interactive map, agencies are able to find answers to their own questions. The use of ARCGIS ONLINE is streamlining MDT processes with FWP and other resources agencies.
- The Census and Economic Information Center (CEIC) mission is to provide current, easily accessible and thorough economic and demographic analysis, maps, data, and expert assistance to meet the needs and requests of Montanans.
 - **OBJECTIVE:** Add Interactive web maps to the CEIC website that provide Census boundaries, American Community Survey data and other economic and demographic data that is easy and quick to access.
 - **OVERVIEW:** Each month, CEIC received many requests for maps showing where Census boundaries were located and how the different boundary levels related to each other. To answer these requests, CEIC was required to make multiple custom PDF maps to help answer their questions and provide the maps and data needed. With the implementation of ARCGIS ONLINE, CEIC has published all the 2010 Census boundaries with frequently used datasets in easy to use interactive maps. CEIC has also published American Community Survey interactive maps that include detailed social, housing, economic and demographic data for Montana
 - **RESULT:** CEIC receives almost no requests for basic Census boundary maps and when requests are received it only takes a few minutes to explain where the interactive maps can be found and how to use them. This allows staff to focus more time providing analysis and custom maps.
 - **CONCLUSION:** By using the interactive maps, citizens are able to find answers to many of their own questions quickly and within their needed timeframe.

LINKS TO EXAMPLES OF EXISTING INTERACTIVE MAPPING PLATFORMS

- Interactive Map Gallery on Mt.Gov - <http://mt.gov/mediagallery.aspx?activeTab=2>
- Interactive Map Gallery from the state library - http://apps.msl.mt.gov/Geographic_Information/Maps/Gallery/
- Interactive Map Gallery from the Department of Transportation - <http://www.mdt.mt.gov/publications/map-gallery.shtml>
- Featured Interactive Map Gallery from Census & Economic Information Center - http://ceic.mt.gov/Maps/maps_featured.aspx
- Maps from Fish, Wildlife & Parks - <http://fwp.mt.gov/doingBusiness/reference/maps/>